

**Conclusions:** According to the results of regular monitoring of hand hygiene, we can provide NPs with correct knowledge and improve the practice from top-down and bottom-up measures. Leadership and total employee involvement play the crucial role for continuous quality improvement.

#### PS 2-453

#### COMPLICATED CRYPTOCOCCAL MENINGITIS, SPINAL MYELITIS AND PROBABLY TRACHEOBRONCHITIS: A RARE CASE REPORT

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**Purpose:** Cryptococcal fungal infections can affect both the central nervous system (CNS) and pulmonary manifestations, especially in immunocompromised patients. Cryptococcal meningitis, caused by the encapsulated yeast *Cryptococcus neoformans*, is known most notably as an opportunistic infection in patients with human immunodeficiency virus (HIV), but can occur in other conditions associated with an immunocompromised state (such as alcoholism, diabetes, malignancy, etc.).

**Case report:** A 71-year-old diabetic man presented with fever for 4 days. There were no consciousness change. He was admitted because of pneumonia. His blood culture grew *Cryptococcus neoformans*; therefore fluconazole was added. However, acute respiratory failure occurred. He was intubated and then he was transferred to an intensive care unit. Broad-spectrum antibiotic with piperacillin-tazobactam were added in addition to fluconazole for fungemia. Spine MRI was arranged for unexplained lower limbs weakness and the result showed multiple lesions at vertebral bodies and spinal processes, suggesting myelopathy. Lumbar puncture revealed an elevated CSF *Cryptococcus* antigen titer of 1:16. Despite fluconazole therapy, serial blood culture still grew *C. neoformans*. We replaced fluconazole with amphotericin B and flucytosine as standard induction therapy. Cardiac echo gram was done, but no vegetation was found. Anti-HIV test was negative. As difficult weaning of ventilator use, bronchoscopy was performed, which found multiple nodular lesions in the whole trachea-bronchi. However, biopsy of bronchus and sputum cytology did not find *Cryptococcus* organism. After complete the induction therapy for *cryptococcus*, he was transferred to a respiratory care ward for further management. Follow-up blood culture became negative. Consolidation and maintenance therapy for cryptococcal infection was in progress.

**Conclusions:** We report a non-HIV case of complex CNS infections by *C. neoformans*, involving meninges, spine, spinal cord and probably endo-tracheo-bronchus, albeit *Cryptococcus* was not found in the respiratory specimens. The difficult-to-treat infection caused prolonged weaning process.

#### PS 2-454

#### EXPERIENCE SHARING OF IMPROVE SHARPS INJURIES RATE AT A REGIONAL HOSPITAL

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**Purpose:** sharps injuries (NSI) are a major occupational hazard among healthcare workers. Serious blood-borne pathogens, can be transmitted from these injuries. In this study, NSI among workers of ChungHua Hospital were analyzed to find out the risk factors associated with NSI.

**Methods:** In this study, NSI cases reported by the Department of Dentistry to NTUH from 2011 to 2012 were collected. Correlations between NSI and parameters related to the events were analyzed. The overall incidence rate of NSI was 8.19% per person-years. stabbed rates were 5.2% (25/476). Therefore, since 2013, to promote the "acupuncture prevention campaign" to establish an inter-departmental group to improve the use of the Deming cycle (Plan - Do - Check - Act; PDCA) approach to program a series of improvements, including: Set up treatment of sharp objects attached to the disc collection box set, high-risk units and high-risk patients with the use of safety needles, replace the safety blood sugar lancets, set five kinds of sharps collection box specifications, apply for different job titles sharp objects stabbed prevention education, modify the technical standards of care processes, encourage high incidence of internal quality control unit improvement intervention measures.

**Results:** Since January 2013 to December 2013, during the plan implementation sharp objects stabbed incidence decreased to 3.32% (15/452).

**Conclusions:** Sharp objects during the execution of the analysis found stabbed reasons, title caregiver ratio decreased from 79% to 53%. This ratio units, wards fell from 50% to 0%, showing that the use of multifaceted interventions have been effective in improving the incident occurred sharp objects.

#### PS 2-455

#### SURVEILLANCE AND IMPROVE QUALITY OF DENTAL UNIT WATERLINE (DUWL) AT A MEDICAL CENTER

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**Purpose:** Dental unit waterline (DUWL) is an important part of dental therapy. To ensure the quality of water environment at Dentistry department, we performed active surveillance of DUWL quality and continuous monitoring and improvement.

**Methods:** A total of nine divisions of Dentistry department, include General dentistry, Patch, Oral maxillofacial surgery, Endodontics, Periodontal disease, Dental replication, Orthodontics, Pediatric dentistry, Special needs dentistry at National Taiwan University Hospital were participated in this program. Initially only 50% (12 of 24 water samples) of dental handpieces waterline and 31% (5 of 16 water samples) of mouthwash tank were <200 colony forming units (CFU) by microbiological testing in 2011.

We started to improve the process including the following steps: establishment and implementation of standard operating procedures for pipeline restocking, single use of chair discharge head and increased stream of water, setup maintenance and disinfection program and regular disinfection, rinse the chair storage bottle with sterile distilled water and sterilization weekly, educate dentists to discharge water and gas of dental devices for a minimum of 20 seconds after each patient.

**Results:** The percentage of water culture <200 CFU of dental handpieces waterline and mouthwash tank were 87% and 100% in 2014.

**Conclusions:** Periodic monitoring and improvement of water quality at Dentistry is important. Continuously education and regular follow up the compliance of staff to obey standard operating procedures might prevent the possible contamination of water environment at Dentistry.

#### PS 2-456

#### LONG TERM EFFECTIVENESS OF A MULTI-MODAL APPROACH IN IMPROVING HAND HYGIENE COMPLIANCE IN A SARAWAK DISTRICT HOSPITAL

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**Purpose:** Hand hygiene practice among health care staff is considered to be the single most effective method in the prevention of health-care associated infection. A multi-modal framework of interventions was implemented in 2010 with the aim of sustaining hand hygiene compliance of more than 70% among staff in a hospital in Sarawak, East Malaysia. The purpose of this study was to review back the effectiveness of the multi-modal framework in achieving this aim after 4 years of its implementation.

**Methods:** A review of the data on hand hygiene compliance among staff was done from 2010 till 2014. Direct observations of hand hygiene practices among staff were done monthly by trained observers in the same 5 units of this hospital using the standard hand hygiene observation form of World Health Organization (WHO). Data was analyzed using Epi Info Software from CDC.

**Results:** The multi-modal framework of interventions implemented in 2010 was leadership, education, system and behaviour change. Overall compliance of staff to hand hygiene improved after the introduction of multi-modal interventions in 2010 which was statistically significant ( $p < 0.05$ ). Upon further analysis of hand hygiene compliance data in all 5 units from 2011 till 2014, it was noted that there was gradual improvement over time in the achievement of hand hygiene compliance where compliance was noted to be consistently above 70%.